1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

The love for silver ornaments is equally strong among the Tungus and the Yakut; among the latter, however, this passion has weakened of late, under the influence of civilization. They even preferred silver to gold, though the Yakut well know that gold is the more expensive metal, and though Yakut silversmiths know how to smelt gold, too. Even the poorest Tungus women have some silver ornaments on their dresses.

The Koryak, on the contrary, have no particular partiality for silver. Even the women of wealthy reindeer-breeders do not always possess silver ornaments. The color of copper or brass is more suited to their taste than the white color of silver. I remember that in Kamenskoye, when I offered a Koryak woman the choice between a wide brass ring with a shining shield and a narrow silver ring, she chose the former. A contrary result was obtained from the same experiment at another time with a Tungus woman.

The Koryak call silver ñaña-polou'ntin ("easily selling iron"). This name, therefore, expresses the superiority of silver over iron. The derivation of the word for "iron" is unknown. At any rate, it was not borrowed from the Russians.

Work in Wood and Bone. — Wood and bone objects, from tiny carvings up to sledges, are nowadays wrought only by means of the above-described iron tools. For fastening the parts of sledges and of the frames of skin boats, pegs of wood or iron are not used. Everything is tied with leather straps; but the Koryak are fond of joining their small chests for holding tea-dishes, or other objects, with steel nails obtained from the Russians. Household objects of wood have been described before,[1] and carvings will be discussed later. The netting-needle, and the vice used instead of iron pincers for finishing iron objects with a file, are made of wood.

In addition to the knife for cutting herring,[2] many other tools are made of bone, antler, or ivory. A thimble and ring of ivory, which protect the thumb and index-finger in chipping stone tools and working wood with the knife, have been described.[3] Fig. 150, *a*, shows a bone needle used in weaving baskets of grass. Fig. 150, *b*, represents a bone tool found by me in excavating an old underground dwelling at the mouth of the Nayakhan River. In shape it looks like an imitation of an iron hammer, but with this difference, that holes have been made in it for tying it to the handle by means of small leather straps. What its practical application may have been, is unknown. It is too small to have served for clubbing seals.[4] It was found with potsherds; and if its shape has been copied from an iron hammer, then the potsherds must be of very recent origin. Fig. 150, *c*, represents a pair of ear-rings carved out of walrus-tusk with a knife. In shape these ear-rings are an imitation of the stone ear-rings referred to before (see p. 610), but differ from them in having linear ornaments.[5]

[1] See p. 570. [2] See p. 573. [3] See p. 608. [4] See p. 545.
[5] See also bone lamp (p. 567), stool made of antler (p. 568), spoons (p. 571), fish-rake (p. 573), picks and pestle (pp. 577–579).

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386 Pounded coal mixed with fish-glue is used for coloring sledge-stanchions, engravings on bone carvings, sinew and nettle thread, and sometimes wood-carvings.[1] A decoction of cranberry with ashes of *Elymus mollis* is used in dyeing black the strips and pieces of ringed-seal skins and of the thin skin from dogs' necks, which are used for ornamenting clothing.

Red dyes of various hues are made of ochre, alder-bark, and of berries of *Empetrum nigrum*. Ochre is used also as a paint, — either dry (for instance, in painting the cheeks of wooden masks[2]), or dissolved in water. Alder-bark serves mainly for dyeing dressed reindeer-hides, from which clothing is made to be worn with the fur side in. Dressed skins are rubbed with it, or it is boiled in water and the skin is soaked in the hot decoction. In the former case an uneven reddish dye results; in the latter, a bright even cinnamon color is obtained. Special skill is required for this process. Expert workers are found among the Maritime Koryak women, who know how to lay a very showy bright cinnamon hue on skin. After being treated with hot alder-dye, the skin hardens, and must be rubbed afresh to render it soft.

281 Dressing of Skins and Cutting of Thongs. — In the Koryak household, dressing of skins and cutting of thongs are important occupations, as all of the clothing is made of skins, which must first be dressed; while thongs are needed not only for lines, breast-collars, lassoes, harness, etc., but also for tying together sleds, for nets, and for many other necessities.

[462] The dressing of skins is the task of women, while thongs are cut by men. The methods employed in both these industries are identical among the Koryak and Chukchee, and for the description of details the reader is referred to Bogoras's work on the Chukchee.[3] I will only remark that in certain places these occupations develop into home industries. This is particularly true of the making of thongs. Strong thongs are obtained only from sea-animals. Accordingly the Maritime Koryak manufacture them, and exchange thongs of ringed-seal and walrus-hide with the Reindeer Koryak.

285 Basket-Work. — The bags and sacks made of seal-hides and reindeer-skin have been spoken of before (see p. 607). Here I shall confine myself to a description of the manufacture of woven bags and baskets. Like the manufacture of clothing, weaving is the occupation of women, and it is developed chiefly among the Maritime Koryak. The material for weaving is quite varied. The roots of different species of willow, the wild rye (*Elymus mollis;* Koryak, tu'wai), willow-herb grass (*Epilobium angustifolium;* Koryak, me'nmet or me'nmetan), nettle (*Urtica dioica* L.), thread from reindeer-sinew, and imported twine, are used.

Willow-roots, previous to weaving, are soaked in warm water, by which process flexible white rods are obtained. The stems of the *Elymus mollis*

[1] See for instance, the wooden dog (*Fig.* 178, *a*) dyed in black.
[2] See Part I, p. 84.
[3] See Bogoras, The Chukchee, Vol. VII of this series, pp. 217, 218.

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are gathered in autumn. This plant grows on sloping sandy river-banks, and often reaches the height of a man. The women cut it down with knives, and carry it in sheaves to the villages. The grass is twisted into braids (Fig. 153, *a*), and bunches of these are hung on sticks in the storehouse.

The outer bark of the edible willow-herb[1] (*Epilobium angustifolium*) is used for technical purposes. The pith is taken out and used as food. Thread is twisted from the bark in the same way as from nettle. The winter supplies of willow-herb are gathered also in the fall, and are preserved in bunches (Fig. 153, *b*).

Fig. 153. Material for Basket-Work. *a* ($\frac{1}{11\frac{1}{2}}$), Braid of Wild Rye (length, 72 cm.); *b* ($\frac{1}{11\frac{1}{2}}$), Bundle of Willow-Herb (length, 84 cm.).

[114]

The Koryak must have used nettle for weaving before meeting with the Russians. From certain passages in Dittmar's[2] book on Kamchatka, the conclusion might be drawn that the Russians had taught the Kamchadal how to treat nettle for textile purposes; but Krasheninnikoff and Steller, who wrote of Kamchatka nearly a century before Dittmar, speak of the use of nettle for nets and baskets as a long-known industry of the Kamchadal[3]

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The Koryak women gather nettles also in autumn, aft... the end of the fishing-season, tie it into bunches, and hang it under the storehouses to dry. In winter they work their yarn. With their teeth they pull off the soft fibres from the hard woody nettle-stems, pound them with a stick until the fibres come apart, and then twist these in the same way as they do sinew-thread.

I have already spoken of the use of sinew-thread in sewing. For basket and bag weaving or netting, strands are made of from four to six fibres, which are twisted together. The spinning of the thread for weaving from these plant and sinew

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[1] See p. 578.

[2] Dittmar, Travel in Kamtschatka, pp. 160, 164, 363. It is quite possible that what Dittmar says does not refer to the preparation of nettle by the Kamchadal in general, but to the endeavors of Zavoyko, Governor of Kamchatka, to accustom them to an improved method of treatment by means of spinning-wheel and weaver's loom. But from the passages referred to in Dittmar it is not quite clear that he wanted to speak only of improvements in the Kamchadal method of manufacture. I do not know whether the better method introduced by the Russians has been preserved among the Kamchadal, but the Koryak employ even now the most primitive method of preparation of nettle.

[3] See Steller, pp. 83, 317; Krasheninnikoff, I, p. 332.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

The spinning of the thread for weaving from these plant and sinew fibres has not advanced beyond the method of a cobbler preparing his waxen end. The twisting is done with the palms of the hands,[1] and a long thread is obtained by twisting together separate parts. Fig. 154 represents a wooden reel on which is wound the sinew-thread for weaving. Similar skeins are made of the threads of plant-fibres.

When a Koryak woman comes into possession of imported flax, hemp, or cotton thread or cord, she uses it by mingling it in her work with home-made material, so that stripes of one and the other material alternate. Sometimes it happens that a Koryak woman purchases linen cloth, unravels it, and twists the ravellings into cord for weaving.

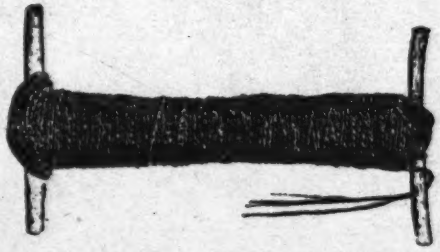

Fig. 154 (1/2). Wooden Reel. Length, 29 cm.

Among the Koryak, as among the Alaskan Eskimo, we find coiled and twined basketry; but in the majority of cases the work of the Koryak is better, and their methods are more varied, than those of the Eskimo.

Fig. 155 represents one of the varieties of coiled baskets. They are

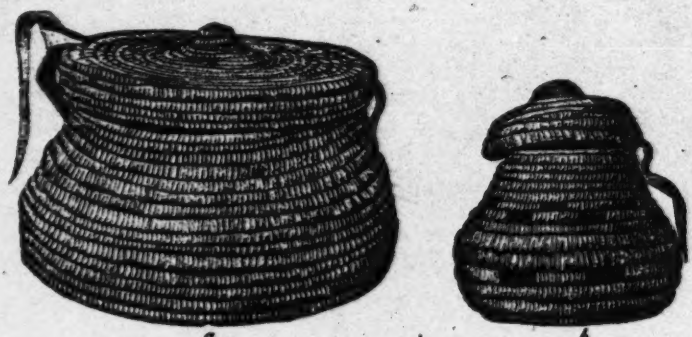

Fig. 155, *a* (1/2), *b* (1/2). Coiled Baskets. Height, 13 cm., 8 cm.

children's baskets, made of *Elymus mollis;* but larger-sized baskets of the same shape are used by women for berry-picking. Fig. 156 represents one square inch of Fig. 155, *a*, enlarged. As may be seen, the work is done

[1] It is interesting to note that an improved method of twisting thread is employed by the Yakut women, who twist with the palm of the right hand on the bare thigh. The origin of this method is explained by the Yakut woman's dress, the lower part of which consists of three pieces, — short trousers, knee-piece, and boots. In working thread, the Yakut woman takes off the knee-piece of the right leg, and, raising her coat, twists on her bare thigh.

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quite roughly, and differs in no way, in material and device, from the same kind of basket-work of the Alaskan Eskimo, which has been described by Mason.[1] Bunches of straw are used for the body of the coil. In whipping each coil with a straw thread, the upper part of the lower coil is caught in, thus fastening the coils together. The straw whipping-thread is passed through the bunches of straw that serve as the foundation by means of a bone or iron awl. As may be seen from the illustration, the women do not observe any regularity in passing the binding through the lower coil. In whipping they pass the thread either through the lower coil or into the interval between two coils, just as the Alaskan Eskimo[2] do.

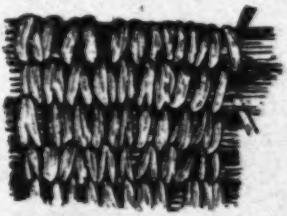

Fig. 156 ($\frac{1}{1}\frac{1}{1}_7$). Technique of Coiled Basket-Work.

The ornamentation of this kind of baskets is made with straw dyed black or red, which is used for whipping the coils, and alternates rhythmically with undyed straw thread (see Fig. 155, *b*).

These baskets are circular in section, and the diameters of the circles grow smaller in size going upward. The rim usually consists, not of straw,

a *b*

Fig. 157 ($\frac{1}{1}\frac{1}{1}_3$). Coiled Grass Basket. Height, 14 cm. *A*, Detail from bottom of basket.

but of a willow rod coiled with sinew thread instead of straw thread. The lid is separate, and is fastened to the basket with a small strap. On the opposite side, straps for closing the basket are fastened.

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[1] See Mason, Aboriginal Basket-Work, Figs. 5, 6, p. 293.

[2] For a sample of cleaner work and regularity of stitches, see the Zuñi coiled basket-jar in Mason's Aboriginal Basket-Work, Plate XLIX, Fig. 81) and the fabrics from a cave in Kentucky (Holmes, Prehistoric Textile Fabrics of the United States derived from Impressions on Pottery, in the Third Annual Report of the Bureau of Ethnology 1881—82, Fig. 67, p. 403).

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Fig. 157 represents a type of coiled basketry made of *Elymus mollis;* but the coils of straw are whipped with twisted sinew thread, and not with straw thread. In *b* a part of the bottom of the basket is shown on a larger scale. The straw coil forms a spiral. The coils are whipped and held together by a sinew thread, also without any regularity, like the straw thread in the preceding figure. The whipping is done with a bone needle like the one shown in Fig. 150, *a*.

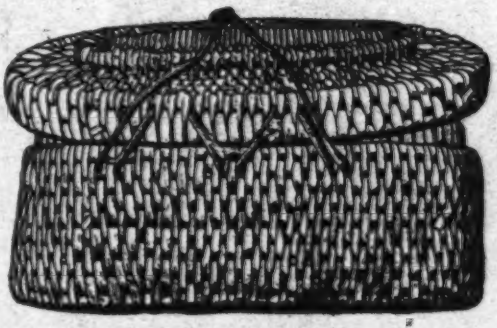

Fig. 158 ($\frac{1}{11}$). Coiled Basket made of Willow-Roots. Width, 22 cm.

Fig. 158 represents a basket made of willow-roots on the river Opuka. The material for whipping consists of splints of willow-roots. This basket, too, belongs to the coiled type, but differs from the two preceding figures in the style of coiling. Rods made of willow roots or branches form the warp. Beginning from below, the splint of the root whips two rods of

Fig. 159 ($\frac{1}{11}$). Unfinished Bag of Nettle-Fibre. *b*, Detail of weaving.

the warp at once. In this process a space equal to the width of the splint is left between each whipping. Then a third rod is added above, and is fastened to the second rod in the same manner, but so that the stitches pass under the second rod between the stitches joining the first pair of rods.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

285 Attention may be called to the neatness and regularity of this work. The seam nowhere passes over the preceding whipping, as it does in grass basket-weaving. The shape of these baskets, which are oval in cross-section, and the form of the lid, suggest that they may be an imitation of some imported model. In material and technique, this basket is exactly identical with that of the Tinné, who, as Mason supposes, taught the Alaskan Eskimo to weave.[1]

Fig. 160. Woven Bags. $\frac{1}{5}$ ($\frac{1}{11}$). Width, 38 cm.

286 Baskets or bags made in twined weaving are open and close. The latter are waterproof.

Fig. 159 represents an unfinished woven sack made of nettle-thread, and a piece of the sack, on a larger scale, showing the method of weaving. An empty sack is so soft that it may be rolled up. After the warp-threads on the bottom of the sack are fastened by the woof-threads, the sack is hung up on two poles or on a stretcher. At the end of the warp-thread, knots are made, lest the twisting should be undone during the work. Certain rows of the warp-threads are black, and alternate in regular order with rows of undyed threads, thus

[1] See Mason, Aboriginal Basket-Work, Plate V, p. 295.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

determining the ornamental style of the bag. The weaving is done by twining two woof-threads over the warp. The end of the woof is gathered in a skein and undone according to need. The weaving continues round the sack from right to left.

Fig. 160 represents flat bags like those on the preceding figure, but finished. In *b* a strip of seal-skin is stitched around the opening of the bag. It is sewed with sinew-thread to the last woof-threads, to which are also fastened the loose ends of the warp. This bag has never been in use, and in the skin strip at the opening are no holes through which to pass the thong which is to close the bag when full (Fig. 160, *a*). The workmanship of these bags exhibits great taste and skill. The ornamentation of the bag is made as follows: at certain intervals among the nettle-threads of the warp there run three threads of sinew, dyed black, which thus form narrow black longitudinal stripes between wider stripes of the light-gray nettle. These alternating stripes of various colors make a pleasing impression. The width of the light stripes varies; and this somewhat disturbs the impression which the ornamentation would produce on the eye if it were executed with greater regularity. The bag is further ornamented with bunches of colored crewel, which are caught in the twining, forming tassels similar to those shown in Fig. 199, *a*. This ornament forms three cross-stripes. Of these, the lower two consist of three rows; the upper one, of four rows.

On the bag marked *a*, instead of the bunches which form the cross-stripes, there is an embroidery of crosses in colored wool, the regular arrangement of which produces a very pleasing effect. The black cross-stripes consist of threads made of the outer bark of *Epilobium angustifolium* dyed in sea-mud.[1] To this bag is attached a woman's carrying-strap or head-band.

The twined bags here described serve for carrying goods on foot-journeys. Women carry them by means of a head-band; men, by means of a chest-yoke.[2] In them women also carry children (see Plate XXXVI). In the Koryak tongue every bag or basket is called apke'lin; baskets with ornamentation, kele'-a'pkel ("ornamented baskets"); while the coiled baskets described before are called tene'-apke'lin ("sewed basket").

Fig. 161 ($\frac{2}{3}\frac{1}{3}$). Technique of Twined Basketry.

Fig. 161 shows the method of weaving close-twined baskets. *Elymus mollis* is pre-eminently the material used for this purpose; but the work on them is more perfect than the work on coiled baskets of the same straw. The warp is formed by threads of twisted straw of *Elymus mollis*. The weaving is done by twining

[1] See p. 648. This method of dyeing textile material black is found also among the Haida (see Mason, Aboriginal Basket-Work, p. 397).

[2] See p. 606.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

285 415 [386] with two straw threads. This method of weaving produces a texture dense, waterproof, and yet flexible and not coarse. Fig. 162 shows three baskets woven by this method. The ornamentation of these sacks is obtained by weaving in threads of *Epilobium angustifolium* dyed black. In *a* the threads from this grass have been dyed in a decoction of swamp-moss. To this dye is added a little fish-oil, which gives it a glossy hue. Bags woven in the way here described vary in size. They are used chiefly as women's work-bags. In the majority of cases the upper part (a third or a half) of the

Fig. 162, *a* ($\frac{1113}{1}$), *b* ($\frac{1117}{1}$), *c* ($\frac{1116}{1}$). Water-tight Baskets. Height, 20 cm., 17 cm., 8.5 cm.

bag consists of reindeer or seal skin stitched to the woven part, as shown in *a* and *b*. Around Penshina Bay the Koryak women, among whom I collected all the above-described specimens of basket-work, do not weave (at least at present) any grass mats; but the Koryak of northern Kamchatka, like the Kamchadal, make grass mats. Fig. 163 represents a grass basket for berries, of the Koryak of northern Kamchatka, which is of cylindrical shape, and is made in twined weaving. In neatness, workmanship, and ornamentation, the basket recalls the best specimens of Indian basketry of the North Pacific coast.

285 Mr. Bogoras has collected in northern Kamchatka a few grass bags which show a different technique. They are made throughout of braids of grass. The bottom is formed by a long narrow strip of skin, to one end of which

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

the first braid is sewed. The braid then continues spirally around this strip of skin, the spirals being sewed together. These bags are ornamented by inserting at a certain place a dark or ornamented braid, which occupies one turn of the spiral, to be followed by a plain turn, which again may be followed by a decorated turn. Thus it happens that at one place in the basket the ornamented and unornamented strips are sewed together, and the irregular appearance is presented because the ornamented turn of the spiral always ends one row above the point where it begins. This technique is shown in Fig. 164, *b*. In this case the lower part of the basket is made of coarse braid, while the upper two-thirds are made of a much more closely woven braid. In Fig. 164, *c*, the insertion of the decorative band is made in a different way, a single black spiral being inserted, which tapers at both ends. The technique of this style of basketry is shown in Fig. 164, *a*.

Fig. 163 ($\frac{1}{11}$). Water-tight Basket. Northern Kamchatka. Height, 34 cm.

The Maritime Koryak are about the only part of the tribe engaged in basket-weaving from plant and other fibre. The Reindeer Koryak women have no time, and their large cold tents are unsuited in winter for carrying on the work of preparing the material and weaving the baskets. The Reindeer Koryak women content themselves with sewing-bags made of skins and with the woven baskets obtained by exchange from the women of the Maritime tribe.

Ancient Pottery. — I have referred several times to the excavations of ancient Koryak underground dwellings, which I made at the mouth of the river Nayakhan and on the seacoast between the mouths of the rivers Nayakhan and Gishiga. Before undertaking to describe the potsherds found in these excavations, I will make a few general remarks on the remains of these underground dwellings and how the excavations were conducted.

The Koryak themselves consider these remains as the dwellings of their ancestors, who had lived there previous to the advent of the Russians, and they call them by the same name as they call their present underground dwellings (see pp. 448, 453). These dwellings are therefore the dwellings of the Koryak, and not those of another tribe, and they are not very ancient.

Seen from the outside, these remains form circular or nearly circular

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

342 shallow pits with small embankments, and resemble the remains of underground dwellings on Yezo, as described by Dr. Grimm.[1] Grimm calls attention to the charred posts found in his excavations. In some pits I also found that the posts which evidently supported the roof were completely charred. The Koryak explained this by stating that the Russian conquerors or other

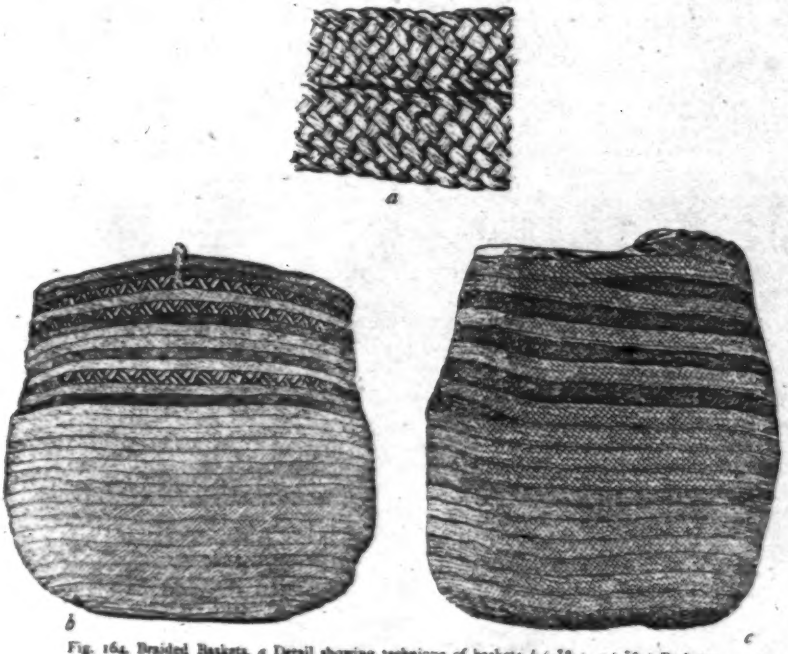

Fig. 164. Braided Baskets. *a* Detail showing technique of basket; *b* (ялпа); *c* (ялпа) Baskets. Height, 40 cm., 44 cm.

foes had set fire to these dwellings, — a practice quite frequent in antiquity when those besieged in the underground house would not surrender.

Much to my regret, I was unable to carry on systematic excavations. The method of my travels precluded a long stay in those regions. Besides, it was in the month of July, when the soil was still frozen to the depth of one foot; so that digging was impossible, and the ground had to be broken with an axe. Therefore no amount of precaution could prevent the breaking of the articles found. Being unable to make regular and extensive excavations, I confined myself to digging up the centres of the holes in the hope of

[1] Grimm, Beitrag zur Kenntniss der Koropokguru auf Yezo u. Bemerkungen über die Shikotan-Ainos (Mittheilungen der deutschen Gesellschaft für Natur- und Völkerkunde Ostasiens in Tokio, 1892, Band V, pp. 369-373).

1: Jochelson E-5 (1900-01) 1908 Ry4 Koryak Ry4

regular alternation of black and white diagonal squares, we have at intervals of approximately fourteen squares two heavier dark diagonal stripes made up of the regular diagonal series, — squares of dark fur, immediately followed by another series of squares made of skin dyed red. This is followed by a series of white squares; and next we find another diagonal of squares of skin dyed red followed by the regular series of squares of dark skin. These diagonals run from left below to right above. In one place there are two

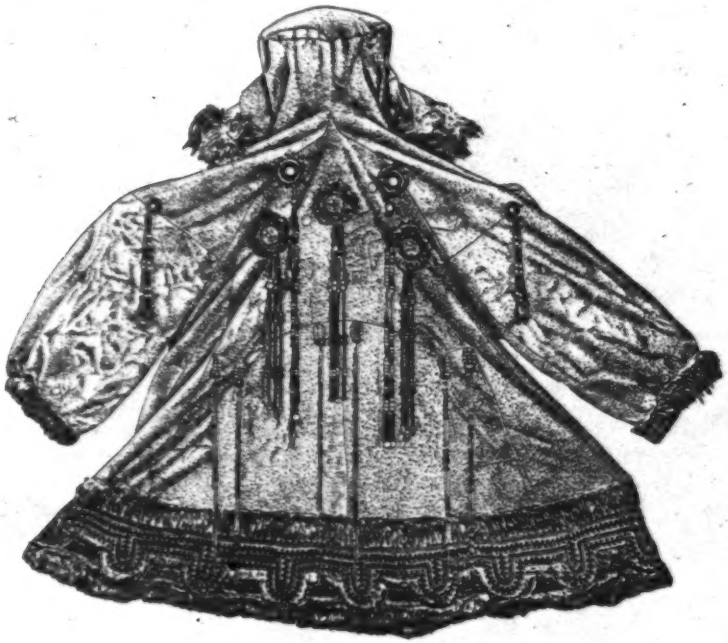

Fig. 227 ($\frac{1}{11}$). Woman's Coat. From Alistor.

double dark diagonals separated by fields of checker-work. The sleeves are finished off with checker-work enclosed by one dark and one white strip.

Decoration of Bags and Baskets. — The ornamentation of basketry depends upon the technique that is applied. The simplest form of basket-decoration is that found in open twining.[1] In all work of this kind the decoration is brought about by inserting colored warp-strands (see Figs. 228, 229, *c*). Various effects are produced by the different grouping of the colored strands. This type of decoration is found both on grass bags and nettle-

[1] See p. 634.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

531 fibre bags. Another type of decoration that is applied in this technique is produced by the insertion of tassels made of dyed hair of young seal, or of 245 crewel. The single bunch of hair or the single piece of crewel is caught in the twined stitch in the manner indicated on p. 680. The designs made by these tassels are quite analogous to those applied to clothing, which were described before (see Figs. 210 and 225). The wide rectangle on the bag shown in Fig. 228, *a*, for instance, is made of tassels of seal-hair dyed red, and of red, light blue, and dark blue crewel, which form checkered rectangles like those found on the embroidered strips of the funeral coat shown in Fig. 225. The designs found on the ornamented rectangles on Fig. 228, *b*, form in the top row a zigzag band like that shown in Fig. 209; and below this, checker-work similar to the checker-work found on so many of the coats. It seems that the most typical method of applying the tassel-ornament is in the form of a series of rectangles, decreasing in size from above downward (see Fig. 228). In a few cases the tassels are distributed at regular intervals over the face of the bag. This kind of decoration is found only on the front of the bag. In a few specimens the tassel decoration is also found on close-twined weaving (Fig. 229, *a*, *b*).

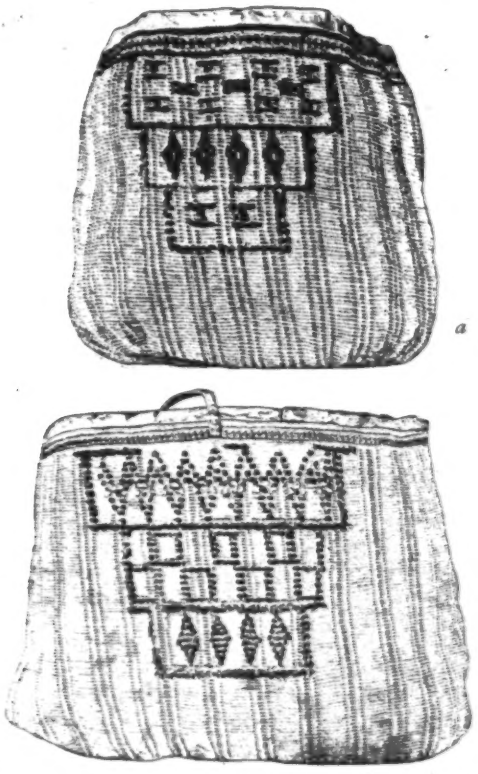

Fig. 228. *a* ($\frac{7}{8}\frac{1}{2}\frac{2}{3}$). *b* ($\frac{7}{8}\frac{1}{2}\frac{2}{3}$). Twined Baskets. Maritime Koryak, North Kamchatka. Height, 45 cm., 53 cm.

The designs found in close-twined weaving are quite different from those found in open-twined weaving. The two bags shown in Fig. 228 and a third one in Fig. 229, *c*, illustrate specimens in which the body of the bag is made

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

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in open-twined weave, while the upper border is made in close-twined weave. In the latter the color effects are brought about by using undyed and dyed woof-strands. In many cases the designs found in this kind of weave recall strongly the slit-embroidery designs which were described before. Thus the design found on the upper border in Fig. 228, *a*, is similar in type to part of the strip shown in Fig. 206, or to the second row in Fig. 207. The top

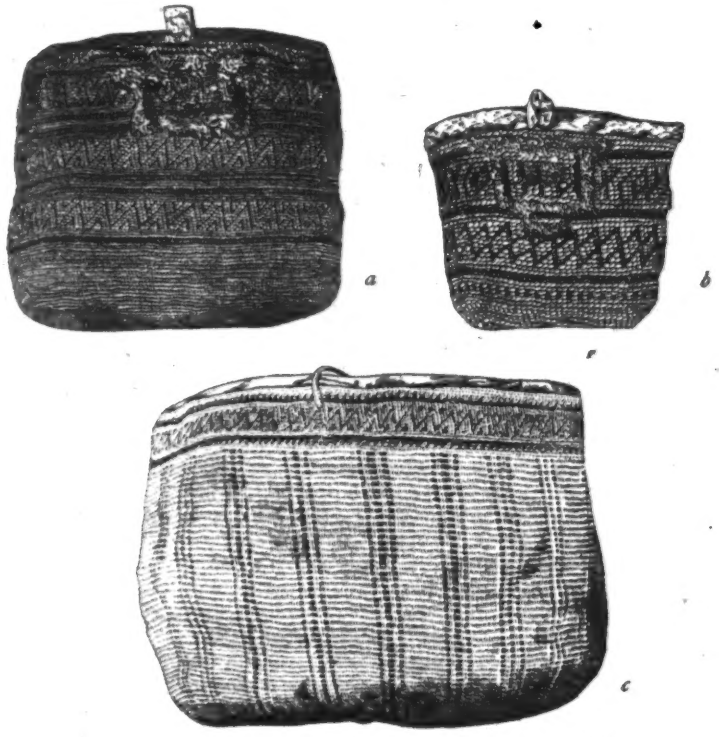

Fig. 229, *a* ($\frac{3}{10172}$), *b* ($\frac{3}{10171}$), *c* ($\frac{3}{10167}$). Twined Baskets. Maritime Koryak, North Kamchatka. Height, 27 cm., 11 cm., 47 cm.

row shown in Fig. 162, *a*, has the same form as the top row in Fig. 207, while the lower rows correspond to the common bar design, which is brought about either by slit-embroidery or by caught-in strips, as in Fig. 210. In Fig. 163 the analogy is even closer, in so far that the rhythmic alternation of the width of the white squares is quite similar to the rhythmic arrangement found in the slit-embroidery. Thus, in the four upper bands of square designs,

1: Jochelson E-5 (1900-01) 1908 Ry4 Koryak Ry4

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which are each seven stitches wide, we find the following arrangement. The two outer lines are throughout black; and in the three inner lines the following arrangement of colors is repeated: 1 black, 1 white, 1 black, 2 white, 2 black, 2 white, 2 black, 2 white. The two lowest bands of square designs have a regular alternation of 2 white and 2 black.

Quite a different type is represented by curiously asymmetrical zigzags, which are shown on the border of Fig. 228, *b*, in Figs. 229 *a* and 163. While the zigzags may be related to the zigzags found on clothing, the peculiar arrangement of the design seems to be typical of twined basketry.[1] It is not impossible that in its origin it is related to the triangular border designs surrounding the embroidered strips of clothing (see, for instance, Fig. 212). In Fig. 228, *b*, the zigzag is shown in its simplest form. In Fig. 229, *a* and *c*, and even more in Fig. 163, the same zigzag appears enlarged, and with small triangles inserted in the larger zigzag.

The border of Fig. 229, *c*, has above and below a series of standing and hanging triangles quite similar to those found in the embroidered strips of clothing; and the whole arrangement may perhaps be compared to the band of appliqué embroidery shown in Fig. 208. The standing triangles are also used independently, being arranged in single or double rows.

Another type of decoration which is used in close-twined weaving consists in the application of cross-zigzags which form rhomboidal designs (see Fig. 162 *b*, *c*, and Fig. 229 *b*). In the top row of Fig. 229, *b*, we also have a series of diamonds surrounded each by two angles the sides of which run parallel to the sides of the central rhomb.

Attention may also be called to the decoration at the lower part of the basket shown in Fig. 163, where alternating rows of varying widths of vertical black and white lines, and of diagonal black and white lines, occur.

The ornamental designs on coiled basketry are also similar to the designs used in slit-embroidery. Four distinct methods are employed in producing ornamental effects on coiled baskets. Narrow strips of black, occupying a small portion of a single coil, or forming vertical bands consisting of pieces of black occurring in a series of coils, are made by using material which is dyed black for whipping the coils. The black checker-work shown in Fig. 230, *a*, and the vertical stripes shown in Fig. 230, *b*, are made in this manner. A similar technique is used in the well-made basket shown in Fig. 231. Here the design is made by using dyed nettle-fibre instead of grass for whipping the coils. The method differs from the preceding in so far as in the checker-work the nettle-thread is carried on continuously, and the

[1] A quite analogous design on twined baskets from Ruanda, in East Africa, shows very clearly that the asymmetrical form of these zigzags is a result of the technique of twining. These African baskets are also very closely woven, and exhibit almost exactly the same design as the Koryak baskets (see collections of the Berlin Ethnographical Museum, Cat. No. III E, 6989). — Ed.

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whipping is merely arranged on the outside in such a way that two successive lines of nettle-thread are followed by two successive lines of grass whipping. Horizontal bands, such as are shown in Figs. 230 and 232, are made

Fig. 230. Coiled Baskets. *a* (7/1/9), Maritime Koryak, Middle Kamchatka (length, 32 cm.); *b* (9/8/1), Reindeer Koryak, North Kamchatka (diameter, 20 cm.); *c* (7/1/1), Maritime Koryak, North Kamchatka (diameter, 20 cm.).

in a different manner. A grass coil is inserted, which is overlaid on the outside with one continuous strip of grass which is dyed black. This coil is not whipped by the close stitch, like the other coils of the basket, but is sewed to the preceding coil by a very loose stitch made of nettle-thread dyed

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black. This stitch is identical with the stitch employed in the bottoms of baskets. A fourth method is applied in a few Kamchadal baskets; horizontal bands being made by overlaying an ordinary whipped coil with grass dyed red, or with red, blue, or black strips of cloth. This is held in place by passing every third or fourth stitch over the strip, which is thus woven on the coil (see Fig. 233). Various forms of checker-work, zigzag bands, and rectangles, are the principal figures that are found. The covers of round baskets often bear designs forming rosettes. In one basket Fig. 230, *b*), figures are found which evidently represent human beings.

Fig. 231 ($\frac{2}{3}\frac{2}{3}$). Coiled Basket with Designs made in Nettle-Fibre. Maritime Koryak, North Kamchatka. Greatest diameter, 22.5 cm.

Fig. 232 ($\frac{1}{2}\frac{1}{3}$). Coiled Basket. Maritime Koryak, North Kamchatka. Diameter, 17.5 cm.

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Decoration of Rugs made of Reindeer-Skins. — It is doubtful whether this art was developed among the Koryak women previous to their contact with the Russians. At present it has developed into a domestic industry. Koryak fur rugs are carried by traders far and wide. They may be seen on the walls or floors and among the furniture of Russians living at Petropavlovsk, Okhotsk, Yakutsk, and Vladivostok. In Irkutsk their price is ten times as high as at home. Among the rich Yakut, Koryak rugs of fine workmanship, made of skins of young reindeer, sometimes take the place of the crude rugs of Yakut production made of cow or horse hides.

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In every village of Maritime Koryak on Penshina Bay, I found the women at work on rugs during the winter, but only once did I see a rug used by the Koryak themselves as an ornament in the house. It covered the platform which served as a sleeping-place for guests. Evidently this industry has developed as a result of Russian demand. To a great extent this is also true of embroidered coats. Every Russian or Yakut merchant, or official in the Maritime or Yakut provinces, if he has to travel on private or official business, buys an embroidered coat of reindeer-skins of Koryak manufacture. It is seldom that the Koryak themselves wear embroidered coats. They are worn only by Koryak traders. Women wear embroidered dresses more frequently than men. I speak here of every-day clothing, and not of festival, dancing, or funeral garments, which are always embroidered. The making of rugs has principally developed among the Koryak of Penshina Bay. They find competitors, especially in silk embroideries, among the Russianized Koryak women of the Yamsk settlement. The Russianized Yukaghir and Chuvantzy women on the Anadyr River and on the lower course of the Kolyma River also enjoy quite a reputation for their art of ornamenting fur dresses and making rugs. The Russianized native women of the Kolyma, however, are less skilful than those of the Anadyr.

Fig. 233 ($\frac{1}{11}$). Kamchadal Coiled Basket. Diameter, 15 cm.

In decorating fur rugs, colored thread and silk or bead embroideries are not used. Small pieces of the white and of the black fur of young reindeer sewed together are the only material used for the ornamentation. The comparatively cheap fur of young reindeer — with its thick, soft, and glossy hair — matches in beauty the expensive furs, and is less valuable only on account of its lack of durability, since the hair usually falls out soon, as in dresses of reindeer-skin. Rugs, however, last longer. Since the entire beauty of a rug is in its ornamentation, it is almost wholly made up of the pieces of white and of black fur which form the ornamental figures. A Koryak girl will work all winter on a rug, if it is a large one, in order to exchange it with a merchant for cloth, calico, ornaments, or food-products. The rugs are either square or of elongated rectangular form. Their length varies from one metre to three metres. As in dress-decoration, the regular designs are geometrical forms, animals, conventionalized plants, or a mixture of all these forms.

The rugs here illustrated were made in the villages of Paren, Kuel, Mikino, and Kamenskoye.

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with large nets sewn together from the smaller ones they owned individually.

Other methods of fishing included fishing with the aid of an iron hook (marik) and "dipper" nets. The fisherman stood up to his knees in water, holding in his hands an implement that looked like a large sack-net on a long pole. Sighting a fish, he quickly directed the net towards it, scooping it up and throwing it out on the gravel shore. This method was used in the beginning of the fish-run, before the cooperative set to work.

Most of the catch went into the making of yukola. The fish were disemboweled and hung to dry on special racks. The yukola (fish dried in the sun and the wind) was put away in storehouses—tents on high piles, covered with dry grass. Yukola was usually made by women, while fishing was done chiefly by men. The yukola was the principal food of the people all year; it was also used as feed for the dogs, in addition to "pickled fish"—freshly caught fish piled into a pit, covered with earth, and left to ferment until needed.

An important auxiliary occupation among both sedentary and nomad Koryaks was hunting, which was done solely by men. The fur animals hunted were fox, wolverine, otter, hare and ermine.

Fur-animal hunting was most important among the Palantsy, who lived in a region abounding in Kamchatka sable. These were trapped in nets. Other animals were hunted with guns. Foxes and smaller animals—yevrazhka hamster and ermine—were caught in springtraps. The latter two were usually hunted by adolescent boys. Hares and partridges were caught with a noose. In early spring, many hunters took meat animals—bears, Siberian marmot, wild reindeer and mountain sheep. Tundra animals were usually hunted without the aid of hunting dogs, which were owned by relatively few hunters.

An important role in Koryak economy was taken by the gathering of wild plants. The gathering of edible roots, grasses and berries was women's work. Roots were obtained chiefly from mouse-nests. Searching out a mouse-nest, the woman dug it up with a special wooden hoe and took from it the store of edible roots prepared by the mice. The berries gathered were blueberry, cloudberry and crowberry.

Grass was used to make inner lining for boots, and was also woven into mats, baskets, bags and purses. The weaving of variously shaped baskets, from those in the shape of bowls and trays down to small oval boxes with lids, and also bags of various shapes and sizes was especially developed among the Karagin and Alyutor women.

The men widely engaged in carving bone and the horns of wild sheep.

One of the villages of the northern coastal Koryaks—the village of Paren' on Taygonos Peninsula, was long known for blacksmithery. The Paren' blacksmiths reforged accidentally gotten pieces of iron into knives famed throughout the Koryak territory and beyond it. Even in the early years of the current century, the local Koryak population preferred them to imported Russian and American knives.

Housing

The dwelling of the reindeer-breeding Koryaks (yaranga) was a tent, similar to the Chukchi yaranga (called yayan'a in the Chavchuven dialect, and raran'a in the Alyutor dialect). Cylindrical at the base and conical at the top, it had a framework of poles and was covered with reindeer skins, with the fur outside. The pelts to be used for covering the yaranga were scraped a little; some of the flesh side was peeled off, then it was kneaded and smoked to make it waterproof. For summer dwellings, the hair was removed, or else worn, old coverings were used.

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Samples of ornamentation on hems of fur clothing.

rectangles, triangles and circles), or representational (figures of reindeer, stylized animals and birds, fantastic plants).

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Beads, silk and reindeer hair were used to decorate boots, mittens, matchboxes, and a variety of bags and pouches. Another craft practiced by women and particularly developed among the Karagintsy was the weaving of baskets, bags and boxes of dry grass.

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Contemporary Life

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In December 1917, the Soviet regime was established on Kamchatka. The civil war which soon broke out in the Far East did not allow the launching of economic and cultural work on the territory inhabited by the Koryaks. In the beginning of 1918, Kolchak's appointees took over Kamchatka. In 1920, an underground revolutionary committee organized an uprising in Petropavlovsk-Kamchatskiy, leading to the restoration of Soviet rule. In 1921, Petropavlovsk-Kamchatskiy, Gizhiga and Nayakhan were occupied by a White Guard detachment under Captain Bochkarev. The Petropavlovsk Revolutionary Committee was compelled to withdraw into the mountains. Since